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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,212	11/12/2003	Michael E. Connell	5083.1US (01-0428.01/US)	6326
24247	7590	05/25/2006	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			WILSON, ALLAN R	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,212

Applicant(s)

CONNELL ET AL.

Examiner

Allan R. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10-14,16-20 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-14,16-20 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0506.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 7, 8, 10, 13, 14, 16, 19, 20 and 22 are rejected under 35 USC § 103 (a) as being unpatentable over U.S. Patent No. 5,827,771 to Ginn et al. ("Ginn") of record in view of U.S. Patent No. 5,798,558 to Tyson et al. ("Tyson").

With regards to claims 1, 7, 13 and 19, Ginn illustrates in figures 2-4B (entire document), particularly figure 2, a ROICS (such as a transimpedance amplifier, col. 1, lines 11-12) a semiconductor substrate 12 having a front side 12c and a back side 12b and having a low ratio of height to horizontal dimension (see FIG. 2);

an integrated circuit 14 on a portion of the front side;

layers (col. 3, lines 6-10) covering a portion of the integrated circuit causing a stress on at least a portion of the substrate; and

a stress or force balancing layer 18 covering at least a portion of the backside substantially balancing the stress caused by the passivation layer covering a portion of the integrated circuit (see col. 3, lines 27-58), the stress or force balancing layer comprising at least a physical vapor deposition material (sputtering Si₃N₄ col. 3, lines 59-67). Additionally, "a

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chemical vapor deposition material” and “a physical vapor deposition material” are product by process limitations (see MPEP 2113).

Ginn does not show specifically a passivation layer. Tyson discloses in the abstract and col. 7, lines 15 a transimpedance amplifier with a passivation layer (step 65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a passivation layer. The motivation for doing this is to protect the underlying layers.

Regarding claims 2, 8, 14 and 20, Ginn illustrates in FIG. 2 the stress-balancing layer comprises a single component layer 18.

Regarding claims 4, 10, 16 and 22, Applicants are reminded that intended functional use (laser-marking) is given no patentable weight in claims drawn to structure. See *In re Pearson* 181 USPQ 641 and *Ex parte Minks* 169 USPQ 120.

Claims 5, 6, 11, 12, 17, 18, 23 and 24 are rejected under 35 USC § 103 (a) as being unpatentable over Ginn and Tyson as applied to claims 1, 7, 13 and 19 above, and further in view of U.S. Patent No. 5,731,954 to Cheon.

With regards to claim 5, Ginn and Tyson are discussed above, they do not show an adhesive layer attached to the device. Cheon illustrates in figure 1 and discloses in col. 4, lines 15-19 an adhesive layer attached to the device 30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an adhesive layer attaching to the device 30 to a heat sink 26. The motivation for doing this is to remove heat from the device.

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Regarding claims 6, 12, 18 and 24, Applicants are reminded that intended functional use (laser-marking) is given no patentable weight in claims drawn to structure. See *In re Pearson* 181 USPQ 641 and *Ex parte Minks* 169 USPQ 120.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. The arguments that Sakaki et al. could not be used as prior art was persuasive.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from an examiner should be directed to Primary Examiner Allan Wilson whose telephone number is (571) 272-1738. Examiner Wilson can normally be reached 8:00-6:30 Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allan R. Wilson
Primary Examiner
22 May 2006